

Claims:

5 1. Portable, foldable electronic device (1) comprising an opened and closed use position, comprising at least:

- a first housing part (6) comprising at least an inner wall (62),
- a second housing part (9) comprising at least an inner wall (92),
- 10 – a hinge mechanism (36) arranged to fold the first and the second housing parts (6, 9) in the closed position in relation to each other for a first use position, wherein the inner walls (62, 92) are against each other, remaining between the housing parts (6, 9), and in the opened position for a second use position, wherein the inner walls (62, 92) are adjacent to each other, and wherein the device (1) can also be used on the side of the inner walls (62, 92),

15 **characterized** in that the device (1) also comprises at least:

- 20 – a third housing part (2), to which the first and the second housing parts (6, 9) are attached by means of said hinge mechanism (36) in such a way that they are simultaneously folded in relation to the third housing part (2) as well, when the device (1) is opened and closed.

25 2. A device (1) according to claim 1, **characterized** in that the first and the second housing parts (6, 9) are arranged to move away from the third housing part (2) before opening in opposite directions, and that the first and the second housing parts (6, 9) placed against each other are arranged, upon closing, to partly move inside the third housing part (2) to reduce the outer dimensions of the device (1).

30 3. Device according to claim 2 or 3, **characterized** in that in its closed position, the housing parts (2, 6, 9) constitute a substantially integrated, rigid housing-like structure.

4. A device (1) according to any of the claims 1 to 3, **characterized** in that it comprises first electronic display means (81, 82) arranged on the inner wall (62, 92) of the first and/or second housing part (6, 9), and also second electronic display means (11) arranged in the third housing part (2), and further a set of electronic keys (3, 4, 5) arranged in the third housing part (2), which keys are arranged to control the functions of the device (1) and the information displayed on the display (11, 81, 82) at the same time when the device is held at the third housing part (2).

5. A device (1) according to claim 4, **characterized** in that the first display means (81, 82) comprise a uniform, foldable electronic display (8) placed on the inner walls (62, 92) of the first and second housing parts (6, 9) and arranged for displaying information, texts and images in at least two different orientations for a vertical and a horizontal position of the device (1).

6. The device (1) according to any of the claims 1 to 5, **characterized** in that in its opened position, the handle-like third housing part (2), which is arranged for holding the device (1) when it is closed and opened, is on the opposite side of the device (1) in relation to the inner walls (62, 92), extending in a direction which is perpendicular to said inner walls.

7. Device (1) according to any of the claims 1 to 6, **characterized** in that in its opened position, the inner walls (62, 92) are parallel and placed adjacent to each other to form a uniform inner wall.

8. Device (1) according to any of the claims 1 to 7, **characterized** in that one of the housing parts (2, 6, 9) is provided with electronic image sensor means for still and/or video images.

9. A device (1) according to claim 8, **characterized** in that the electronic image sensor means comprise a turnable camera arm (18) extending from the third housing part (2) in between the first and the second housing parts (6, 9), provided with a space (34, 35) and a transparent housing (32, 33) for the camera arm (18) and to protect it.

10. A device (1) according to any of the claims 1 to 9, **characterized** in that the hinge mechanism (36) comprises a hinge system (39) arranged for folding the first and the second housing parts (6, 9) in relation to each other and the third housing part (2), an ejector mechanism (37) arranged to eject the first and the second housing parts (6, 9) wholly and the hinge system (39) partly from the third housing part (2), and an unfolding mechanism (38) arranged to assist in the opening of the first and the second housing parts (6, 9).

11. Device (1) according to any of the claims 1 to 10, **characterized** in that the first and the second housing parts (6, 9) are arranged to turn around such a joint rotation axis (C) which is placed between said housing parts (6, 9) and in the same plane with their inner walls (62, 92).

12. Device (1) according to any of the claims 1 to 11, **characterized** in that it is a communication device comprising at least a CMT user interface which is available in the closed position of the device (1), and at least a PDA user interface which is available in the opened position of the device (1).

13. Hinge mechanism for a portable, foldable electronic device (1) comprising two or more positions and comprising at least three housing parts (2, 6, 9) foldable in relation to each other, wherein the hinge mechanism (36) comprises a hinge system (39), which is arranged to couple the first and second housing parts (6, 9) and to fold them in relation to each other, **characterized** in that the hinge system (39) is also arranged to couple the first and second housing parts (6, 9) to the third housing part (2) in a foldable manner by means of said hinge system (39), and that the hinge mechanism (36) also comprises an ejector mechanism (37) arranged for moving said hinge system (39) in relation to the third housing part (2), and an unfolding mechanism (38), arranged to assist in the opening of the first and the second housing parts (6, 9).

14. A hinge mechanism (36) according to claim 13, **characterized** in that the ejector mechanism (37) is arranged to eject the first and the

second housing parts (6, 9) fully out of the third housing part (2) and to eject the hinge system (39) partly out of the third housing part (2).